

Goal 1

A seamless, integrated system of postsecondary education strategically planned and adequately funded to enhance economic development and quality of life

The Council tracked systemwide progress on a number of indicators in 2002-03 and implemented statewide initiatives relative to the objectives of Goal 1. Activities will be implemented in 2003-04 to address concerns and sustain momentum.

A Seamless, Integrated System

A seamless educational system is one in which students move easily from one educational sector to the next. In Kentucky, too many students are lost at key transition points in the education pipeline. Students need to be better prepared for college and the workplace, and Kentucky's educational system needs to be well coordinated so that students learn what they need to know to succeed at the next level. The following indicators reflect progress in accomplishing this goal:

Indicators Related to Seamlessness

- Thirty-seven percent of ninth-graders in Kentucky enrolled in college within four years in 1998, and 38 percent in 2000. In top-performing states, 54 percent of ninth-graders enrolled in college within four years.
- The proportion of 1999-2000 GED recipients who enrolled in a Kentucky college or university within two years was 17.8 percent, a 1.3 percentage point increase over the previous GED cohort. The 2002 goal was 15 percent.
- A student's score on the ACT college entrance examination is a solid indicator of readiness for college work. After holding steady or declining for several years, the average ACT score for Kentucky's 2003 high school graduates rose to 20.2, up from 20.0 in 2002. The national average remained unchanged at 20.8.

The scores of Kentucky students improved even as an increased percentage of high school graduates took the ACT. In 2003, 73 percent of Kentucky's graduates took the exam, compared to 72 percent in 2002.

- This is significant because the conventional expectation is for scores to decline as participation broadens to include less-prepared students.
- National studies show that students who complete a rigorous high school curriculum like the ACT core are more successful in college. The percentage of Kentucky test-takers who indicated they were taking the ACT core curriculum increased between 2002 and 2003, from 58 percent to 59 percent.
- In 2000-01, for every 1,000 high school juniors and seniors in Kentucky, 124.8 students enrolled in college-level work. This number rose to 219.5 students in 2001-02. The bulk of the increase came from dual enrollment, especially at the community and technical colleges. In 2000-01, 4,554 high school students were enrolled in a public postsecondary institution; that number more than doubled in 2001-02 to 11,040.
- Encouraging more community and technical college students to transfer to a baccalaureate program is essential if the state hopes to reach the national average in the percentage of adults with a bachelor's degree. The number of students transferring from the KCTCS and Lexington Community College to a Kentucky public or independent four-year institution rose to 2,877, an increase of 5.3 percent. However, the number of community and technical college transfers remains below 1998 levels. The Council is working with the institutions to increase the number of transfers and to establish aggressive new transfer goals.
- In 2002, the average number of credits transferred to a public university decreased at both the KCTCS and LCC; the goal was for average hours to increase or remain steady at 50.5 and 55, respectively.

Initiatives to Enhance Seamlessness

Improvements in the seamlessness and integration of Kentucky's educational systems are due in part to the postsecondary system's cooperation with early childhood education providers, P-12, and adult education partners to improve students' preparation for college. The following initiatives illustrate the quality of collaborative efforts that occurred in 2002-03, and what is planned to improve the system further.

State P-16 Council

The state P-16 Council was created in 1999 to advise the Kentucky Board of Education and the Council on Postsecondary Education on the preparation and professional development of teachers, the alignment of competency standards, and the elimination of barriers that impede successful transitions from preschool through college. Early childhood education, P-12, adult education, and postsecondary education are key participants.

In 2002-03, the state P-16 Council participated in several initiatives to facilitate student progress from early childhood education through baccalaureate attainment. The most significant of these were the American Diploma Project (ADP), the implementation of Senate Bill 74 of the 2002 General Assembly (advanced placement and dual credit), and the Kentucky Early Mathematics Testing Program (KEMTP). Moreover, new local P-16 councils were formed throughout the state to ensure policy initiatives are carried out in local districts.

Next year, the state P-16 Council will continue to pursue ADP, SB 74, and KEMTP. A study will be conducted to measure the impact of dual enrollment on postsecondary performance. Finally, local P-16 councils will continue to receive funding and support from the Council for their ongoing, grassroots work to improve education in the Commonwealth's communities.

American Diploma Project

Kentucky was one of five states selected to pilot the American Diploma Project, a national effort to make the high school diploma and secondary assessments more meaningful for college admissions, college placement, and the workforce. The other states were Indiana, Massachusetts, Nevada, and Texas. The project is sponsored by the National Alliance of Business; the Education Trust; Achieve, Inc.; and the Fordham Foundation.

The Council staff worked with P-12 teachers, faculty, the chief academic officers of public postsecondary institutions, the Partnership for Kentucky Schools, the Kentucky Chamber of Commerce, the state AFL-CIO, and the Office of the New Economy to establish benchmarks of college and workplace readiness in mathematics and English language arts. ADP sponsors were responsible for:

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If endorsed by the Council and the Kentucky Board of Education, a minimum graduation requirement for Kentucky high schools, reflecting the ADP benchmarks, would make obsolete the need for a separate "pre-college curriculum," thereby helping every student succeed in college and the workplace.

- Directing a review of the assessment tools aimed at high school students and college freshmen.
- Organizing a comparative analysis of the skills that postsecondary faculty believe are necessary for college success with what is actually taught and tested in high school.
- Reviewing the high school coursework taken by workers in highly skilled and mid-level jobs to determine the curriculum most likely to produce success in a knowledge economy.
- Studying the legal implications of using high school accountability measures for admissions, placement, and hiring purposes.

The research phase of the project was completed in December 2002. On the basis of the pilot state studies, ADP staff compiled benchmarks of college and workplace readiness in mathematics and English language arts that have been reviewed by faculty and employers from across the country. In March 2003, the ADP team brought representatives to Kentucky's state P-16 Council to review the recommendations and define the policy changes needed to ensure high school students are prepared for college and the workplace. Staff from the Kentucky Department of Education and the Council on Postsecondary Education, as well as representatives from local P-16 councils, developed a state plan based on the policy panel review. In June, the plan was endorsed by the state P-16 Council and reviewed by the Kentucky Board of Education. When the benchmarks for college and workplace readiness are released nationally in November, changes to Kentucky's high school standards will be considered.

The following activities will be conducted next year to increase the rigor of the high school curriculum and decrease the need for remediation in college:

- Final ADP benchmarks will be shared with the chief academic officers of Kentucky's public postsecondary institutions, with the goal of placing any student who can demonstrate these competencies in mathematics and English language arts in credit-bearing coursework upon college admission. The Council will work with KDE to enable high school graduates to use their

performance on high school tests to demonstrate skills for college application and placement, as well as employment purposes.

- Because the writing portfolio is the only element of the Commonwealth Accountability Testing System directly correlated to individual student performance, the Council will work with the institutions to encourage use of the writing portfolio in college admissions and placement. Unfortunately, analytical essays (writing to demonstrate knowledge, seen as “college-survival” writing) are not currently part of Kentucky’s writing portfolio. Representatives from both the University of Kentucky and KCTCS have requested a study of the correlation of “proficient” or “distinguished” high school portfolios with subsequent college performance.
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Kentucky Early Mathematics Testing Program

The Council provides funding to support the Kentucky Early Mathematics Testing Program (created by SB 77 of the 2000 General Assembly). Administered by Northern Kentucky University with online capacity through the University of Kentucky, the program assesses the degree to which high school sophomores and juniors are prepared for college-level mathematics. By taking the KEMTP, students can identify and rectify weaknesses early enough to avoid developmental courses in college.

KEMTP is receiving national attention. The University of Oklahoma is developing an online test modeled after KEMTP, and Eastern Washington University is creating a testing program that students will access through the KEMTP website. Several high schools in Tennessee have administered the test to their students.

A recent study conducted by the UK College of Mathematics showed a strong correlation between performance on KEMTP and final grades in elementary calculus and college algebra. Among students who answered more than 70 percent of the questions correctly at the beginning of elementary calculus, roughly one-third received a final grade of A and roughly two-thirds received a grade of C or higher. Of students

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The KEMTP website was completely redesigned in 2001, and a traditional paper-and-pencil version was added in 2003. This method proved especially attractive to teachers as an in-class instructional device. After increasing from 3,010 students in 29 high schools in 2001 to 8,173 students in 72 high schools in 2002, KEMTP reached 8,496 students in 70 high schools in 2003. Program directors are working with state-wide programs such as GEAR UP Kentucky to expand its use in low-income schools.

Advanced Placement

Senate Bill 74 of the 2002 General Assembly directed the Council to develop an administrative regulation by December 31, 2002, that would standardize the college credit awarded for a score of at least "3" on any one of the College Board's advanced placement (AP) examinations. The Act also required the Council to publish, in print and electronic form, the AP scores necessary for credit in specific academic programs at Kentucky public and independent institutions.

The Council staff compiled the AP score information in print form and is in the process of publishing this information on the Web. The Council staff is working with KDE to examine ways to increase AP offerings through the Kentucky Virtual High School, as well.

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Dual Enrollment/Credit

The number of Kentucky high school juniors and seniors taking college-level courses is one indicator of their preparedness for postsecondary education. In addition to advanced placement (AP) courses, the Council encourages dual enrollment as a way to increase college awareness and aspiration among high school students. Presently, many such dual enrollment opportunities exist throughout the state; in particular, arrangements between KCTCS and area high schools have increased sharply.

Nevertheless, continued impediments to dual enrollment and credit include feared loss of annual daily attendance on the part of local school districts, as well as lack of tuition compensation for the postsecondary institutions (unless paid by the student). Next year, the Council will address some of the funding impediments faced

by local school districts and their postsecondary partners to develop a coherent, consistent statewide funding policy for dual credit.

Statewide Transfer Initiatives

The success of the KCTCS and LCC in enrolling large numbers of students in certificate, applied degree, and workforce programs has created both opportunities and challenges. While students in occupational programs are more focused on employment and less likely to transfer to a four-year institution, their career prospects and earning potential could be enhanced by a bachelor's degree. The Council and institutions developed an array of new transfer tools and programs in 2002-03 to encourage more applied associate degree completers to obtain a baccalaureate degree.

The Council implemented the first transfer initiatives in the mid-1990s. These "tools"—aimed at students completing Associate of Arts or Associate of Science degrees—guarantee the transfer of 60 credit hours and assure the transfer of all or part of general education coursework from one institution to another. In addition, the Council supports programs to improve transfer for the growing number of students in applied associate degree programs:

- Although most applied degrees have only 12-15 hours of general education courses, the Council and the institutions implemented a policy ensuring the transfer of these general education credits.
- Over 30 2+2 transfer frameworks have been created for specific applied associate degrees. These 2+2 transfer frameworks maximize the transfer of credits, including many technical courses, to related four-year degree programs. For example, a statewide 2+2 agreement in elementary education guarantees that students who complete the Applied Associate of Science degree can transfer coursework to a four-year teacher preparation program.
- Every university has committed to creating a "completer" degree. The completer degree accepts all coursework from any associate degree program and provides a special upper division program leading to the baccalaureate degree. For example, Northern Kentucky University's

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completer program in organizational leadership overlays advanced coursework in management and leadership on any applied associate degree to prepare students for supervisory positions in their area of work.

Despite the great effort that has gone into creating transfer frameworks, few students are using them to their full benefit. To increase transfer rates, the following initiatives will be undertaken in 2003-04:

- The chief academic officers met in July 2003 to discuss increasing the utility of Kentucky's transfer tools. They committed to developing more flexible, student-oriented transfer frameworks and a more standardized process for certifying and accepting transfer student coursework.
- Council staff will work with institutions to increase goals for transfer and develop strategies for meeting them.
- All institutions will implement an online transfer information system by spring 2004. The Council supports the use of the Course Applicability System (CAS). Using this system, students can see how the courses they have taken (or plan to take) transfer to programs at other institutions.
- To educate key faculty about CAS and the transfer frameworks, the Council will hold regional workshops. Transfer brochures and posters created by the Council will be disseminated to faculty, advisers, and students.
- The Council staff will request data from the institutions that will allow for more detailed analysis of the performance of transfer students. The data will be used to create a Community College Feedback Report—modeled after the current High School Feedback Report—to show how students from individual community and technical colleges performed at each four-year university. This feedback can help the institutions better align two-year and four-year academic programs and improve transfer student success.
- The Kentucky Virtual University (KYVU) currently offers online associate transfer degrees and is increasing the number of 2+2 transfer frameworks online. These programs increase access and ensure maximum transfer of credits. Work will continue to enhance these offerings in 2003-04.

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Distance Learning

The KYVU plays a pivotal role in facilitating a seamless transition from high school or GED programs to postsecondary education. Online curriculum offered through the Kentucky Virtual Adult Education (KYVAE) website allows adult learners to access quality curriculum, resources, and instructional support anytime, anywhere. In less than two years, KYVAE has revolutionized the way services are delivered to citizens, and thousands more are enrolling online as a result. Adults at lower literacy levels can improve their basic skills, while others can study for a GED or enhance their employability skills. KYVAE was honored with a National Association of State Chief Information Officers (NASCIO) recognition award for innovative use of technology in September 2003.

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K-12 students can earn credit and access courses not available in their area through the Kentucky Virtual High School (KVHS), which partners with KYVU and local school districts. The KVHS offers 19 Advanced Placement classes and four years of foreign languages. Although primarily middle and high school students enroll, these courses are available to students in nonpublic schools and home schools as well.

Furthermore, the KYVU also helps high school students prepare for success in college. In 2003, KYVU partnered with the KVHS to develop programs responding to the federal requirements of the *No Child Left Behind Act*. Through this alliance, KYVU provides an online curriculum for K-12 students who may need supplemental educational services. Parents can select a KVHS teacher or a local teacher mentored by KVHS to deliver this curriculum. The KYVU also makes this online curriculum available to school districts that want to incorporate online learning into their established curriculum, GEAR UP Kentucky schools in particular. Currently, 46 K-12 students are being served. Next year, KYVU will align this curriculum to the KEMTP, which will allow students to hone their mathematical skills, identify weaknesses, and access specific modules in the online curriculum to increase their performance.

In addition to providing instruction to students, the KVHS is a statewide provider of online professional development for teachers, school councils and other education stakeholders. More information about KYVU is provided on page 138 of this report.

Seamlessness Policy Group

The Council has established three policy groups to focus on key themes for the upcoming year—seamlessness, affordability, and workforce/economic development. The seamlessness group will involve Council members and other policy makers in the development of policies to produce even stronger P-12 teachers, ensure that high school graduates and GED earners are adequately prepared, stop the leakage within the postsecondary system, and provide opportunities for life-long learning. Policy areas to be examined include:

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- The alignment of high school and adult education curricula with college and workplace expectations.
- The transfer of credits between postsecondary institutions.
- Postsecondary enrollment, retention, and degree production.
- Low-income and minority student access and success, including the role of distance learning.

Strategic Planning

In 1998, the Council established the public agenda called for in HB 1. *2020 Vision: An Agenda for Kentucky's System of Postsecondary Education* links advanced education to statewide priorities and economic growth in the 21st century. It explains how students, graduates, employers, the education community, and the general public can expect to benefit from the system's energies and efforts. *2020 Vision* positions Kentucky's colleges and universities as providers of a public good and their work as a means to an end.

2020 Vision is now five years old. In spring 2004, the Council will begin a systemwide strategic planning process to update it and its companion document, *Action Agenda 2001-06*, which articulates the Key Indicators of Progress. The faculty and staff of public and independent colleges and universities, policy makers, students and parents, small and large businesses, labor groups, the elementary and secondary community, community leaders, and concerned citizens will be involved in this

process. A series of forums will be held across the state to discuss the needs of the Commonwealth—its communities, employers, workers, and general citizenry—and what the postsecondary system can do to respond. Working closely with its education reform partners, the Council staff will refine the system’s public agenda and strategic implementation plans and present a draft to the Council for consideration in late summer or early fall 2004.

The Council also will coordinate a comprehensive enrollment projection and impact analysis. The analysis will update existing estimates of the undergraduate enrollment numbers necessary if Kentucky is to reach the national average on a variety of educational attainment and economic well-being indices by 2020. The information collected will include:

- population projections by county and age group.
- college-going rates by county.
- college-going rates by GED earners.
- participation rates of the population.
- first-year retention rates, transfer rates, and graduation rates for the associate degree and the bachelor’s degree.

The analysis also will include the development of a model to apply national averages to key postsecondary education data, which will result in Kentucky-specific enrollment projection numbers needed to establish goals and fulfill the legislative mandates of HB 1.

Funding Adequacy

A look at how well Kentucky’s postsecondary education system is funded should be viewed from three primary perspectives: 1) funding adequacy of the *system* at current enrollment levels relative to how well other states fund their postsecondary education systems and provide affordable access for students to attend college, 2) adequacy of funding for each institution at current enrollment levels compared to like institutions across the nation, and 3) funding adequacy relative to achievement of HB 1 goals.

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State Level Comparisons

State Appropriations

This section refers to commonly used measurements to compare Kentucky's fiscal or tax effort with that of other states. Tax effort is defined as the extent to which a government uses its fiscal or tax capacity to support postsecondary education.

Grapevine, a well-known higher education funding analysis report published by Illinois State University, provides one national indicator. *Grapevine* reports data on the total effort for higher education, including state appropriations for universities, colleges, and community colleges in each state, as well as state higher education agencies.

One of the key data elements of *Grapevine* is the ranking of states on appropriations of state and local tax funds for operating expenses of higher education, on both a personal income and a per capita basis. These data are important indicators of "ability to pay" and reflect policy priorities in the various states' budget processes.

For fiscal year 2002, *Grapevine* reports the following data for Kentucky compared to national averages and other states.

**Rankings of States on Appropriations of
State and Local Tax Funds for Operating Expenses of Higher Education per
\$1,000 of Personal Income and Per Capita, FY 2002**

Entities	Per \$1,000 of Income	Rank Among the States	Per Capita	Rank Among the States
Kentucky	\$10.65	10	\$266.75	16
National Median	\$8.51		\$246.77	

The following list represents the states that ranked above Kentucky when comparing state and local appropriations for operating expenses of higher education per \$1,000 of personal income:

1. New Mexico	\$15.78
2. Wyoming	13.39
3. Mississippi	13.10
4. North Dakota	12.11
5. Utah	11.60

6. North Carolina	11.32
7. Nebraska	11.25
8. Kansas	11.07
9. Iowa	10.90
10. Kentucky	10.65

The following list represents the states that ranked above Kentucky when comparing state and local appropriations for operating expenses of higher education per capita:

1. Wyoming	\$383
2. New Mexico	364
3. Nebraska	336
4. California	328
5. Alaska	322
6. Kansas	320
7. North Dakota	317
8. North Carolina	313
9. Iowa	296
10. Wisconsin	288
11. Hawaii	285
12. Mississippi	282
13. Illinois	280
14. Minnesota	278
15. Utah	268
16. Kentucky	266

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Kentucky's per capita personal income currently stands at about 82 percent of the national average, ranking 39th. In terms of population growth, Kentucky grew by only .6 of a percent during in the decade of the 1980s. Even though in the decade of the 1990s Kentucky's population grew more rapidly (about 9 percent), it still trailed the

national growth rate. According to the 2000 Census, Kentucky ranks 25th in total population.

It also should be noted that differing budgetary structures among the various states raise some questions about *Grapevine's* interstate state appropriation comparisons. For example, state appropriations for new economy programs and adult education are not necessarily counted as postsecondary education appropriations in other states while they are part of postsecondary education in Kentucky. These structural data reporting differences may distort the relative rankings of the states.

College Affordability

Another feature of state level comparisons is the affordability issue, i.e., how affordable is postsecondary education for Kentucky's students and their families. The National Center for Public Policy and Higher Education's *Measuring Up 2002* uses six indicators to grade the 50 states on affordability. The indicators are ability to pay (three indicators), state need-based aid, low-priced colleges, and student debt. While Kentucky received an overall grade of C in affordability, only five states received higher letter grades: California (A), Illinois (B), Minnesota (B), Utah (B), and Virginia (B). Of the 12 states receiving a grade of C, including Kentucky, only two states within the C group rank higher than Kentucky in their numerical score (North Carolina and Wisconsin). This means that overall only seven states were considered to be more affordable than Kentucky. Or, to put it another way, Kentucky is considered more affordable than 42 states, according to *Measuring Up* comparisons.

Within the affordability category, Kentucky performed particularly well on *Measuring Up's* "ability to pay" indicators. *Measuring Up* defines ability to pay as the share of family income needed to pay for tuition, fees, room and board, and other college expenses, minus student financial aid.

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Percent of Income (Average of All Income Groups) Needed to Pay for College Expenses Minus Financial Aid		
Family Ability to Pay	Kentucky 2002	Top States 2002
At community colleges	17%	16%
At public 4-year colleges/universities	19%	18%

Thus, the percent of family income required to finance college in Kentucky, at both the two-year and four-year levels, is very close to the average percentage required by the “most affordable” top states, as identified in the *Measuring Up 2002* report.

Another indicator of affordability is student borrowing. Again, according to the *Measuring Up 2002* report, Kentucky students, on average, have relatively low student borrowing amounts; there are only four states (North Dakota, Mississippi, Iowa, and South Dakota) where students borrow less. Kentucky’s performance on the state need-based indicator lagged behind the performance of top states. In Kentucky, the aid low-income students receive from the state is 37 percent of the federal Pell grant aid. In *Measuring Up*’s top states, students receive more need-based aid from state sources than federal.

It should be noted that most of the data reported in *Measuring Up 2002* is 2000 data. This is the most current information available that allows for state-by-state comparisons. A report published in 2002 by the National Center on Public Policy and Higher Education, “Losing Ground,” indicates that in recent years families across the nation continue to find college less affordable as tuition rates increase and financial aid programs lose their buying power.

While not a complete measure of affordability, tuition rates represent the “sticker price” of going to college. A more current assessment of student tuition and fee rates, according to FY 2003 data published by the *Chronicle on Higher Education*, indicates Kentucky’s average public university and college student costs remain relatively low compared with those of other states. As the table below clearly indicates, Kentucky ranked 18th nationally in having the lowest average student tuition and fees rates for public universities and 24th in the lowest average tuition and fee rates for 2-year public colleges.

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**Average Student Tuition and Fees in
Kentucky as Compared to the National Average**

FY 2003	Public 4-Year Universities	Rank	Public 2-Year Colleges	Rank
National Average	\$4,115	—	\$1,675	—
Kentucky	\$3,327	18	\$1,975	24

Source: *Chronicle on Higher Education*

The Council has convened several policy groups to provide a more thorough analysis of important issues related to postsecondary education reform in Kentucky and to make policy recommendations regarding these issues based on these groups' reviews. One of these groups is the Affordability Policy Group, which met for the first time in November. The work of this committee will involve issues such as tuition policy, financial aid policy, quality of education, access for Kentucky's students, and the relationships between and among these issues. The work of this committee is expected to span the biennium.

Institutional Comparisons

The second perspective shows how well Kentucky's institutions of postsecondary education are funded at current enrollment levels compared to like institutions across the nation.

HB 1 eliminated the previous higher education funding formula, which had been in use from 1980 to 1996, and charged the Council with developing a new funding approach. Commencing with the 2000-02 biennium, a benchmark funding model was established to compare Kentucky institutions to other higher education institutions across the country, not merely within the Commonwealth or the surrounding region. A cooperative process involving the Council staff, the institutional presidents and their staffs, the Governor's Office for Policy and Management, and the Legislative Research Commission staff was used to develop a list of benchmark peer institutions having similar characteristics to Kentucky's institutions.

Once the benchmark lists were developed and approved, the Council staff analyzed the total public funds support (defined as state appropriation plus tuition and fee revenue) on a per full-time equivalent (FTE) student basis. Kentucky institutions were then compared to the benchmark schools based on this measure, with the Council endorsing a median funding approach whereby the goal was to bring all Kentucky institutions to at least the "benchmark median" of their peer institutions.

How are Kentucky's institutions faring using this method? For the 2002-04 biennium, the benchmark funding model indicated a funding gap of about \$146 million - the amount necessary to bring all Kentucky institutions to their benchmark medians (a midpoint value of funding per FTE for the benchmark institutions).

Analyses supporting the Council on Postsecondary Education's 2004-06 budget recom-

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mendation indicate that, using this same methodology, it would take almost \$315 million to bring Kentucky institutions to their benchmark medians. While Kentucky institutions have been making some progress in terms of increased state funding, the combination of a 23 percent increase in enrollment since 1998 and budget reductions in recent years means that the “institutional funding gap” under the benchmark funding model has continued to grow.

As the following table indicates, for the 2004-06 biennial period, for all but one of Kentucky’s ten institutions (including Lexington Community College) the benchmark funding model indicates the amount of General Fund support is less than 100 percent of the benchmark funding objective, with three institutions funded more than \$50 million below their benchmark funding objectives. Kentucky State University is the only institution which has exceeded its benchmark funding objective; however, KSU’s numbers are somewhat distorted because of its small enrollment relative to its benchmark peer institutions. (Based on a recently published consultant’s report by Baker and Hostetler, the Council has requested special initiative funding to assist KSU in increasing student enrollments in the next biennium.)

**Comparative Funding of Kentucky’s
Postsecondary Institutions**

Institution	General Fund Per FTE FY 03 (KY)	Benchmark Objective Funding Need per FTE (Median)	State General Fund as a Percent of the Benchmark Funding	Rank in Funding Need Compared to Number of Objective	Total Shortfall Relative to Benchmark Median Benchmark Institutions
EKU	\$5,544	\$7,341	75.52%	20/20	\$22,626,743
KCTCS	4,223	5,552	76.06%	8/10	56,024,300
KSU	10,100	8,289	121.85%	3/20	- 0 -
MoSU	5,336	7,531	70.85%	18/20	16,982,635
MuSU	5,729	7,608	75.30%	19/20	15,490,619
NKU	3,874	7,249	53.44%	19/20	36,648,598
UK	9,695	11,931	81.26%	11/20	50,538,796
LCC	1,341	4,864	27.57%	20/20	22,886,818
UofL	8,954	12,042	74.36%	18/18	50,601,410
WKU	4,522	7,341	61.60%	20/20	<u>42,972,762</u>
Total					\$314,772,681

This look at the comparative funding of Kentucky’s postsecondary institutions reveals the enormity of the task facing us. Given the state’s current fiscal environment, the

Over the coming year, the Council has committed to a complete review of all funding policies and procedures related to the benchmark funding model.

Council on Postsecondary Education recommended, as part of its 2004-06 budget request, that the benchmark funding objective be met over three biennia rather than in a single fiscal period.

Over the coming year, the Council has committed to a complete review of all funding policies and procedures related to the benchmark funding model. Planning for the review has already begun. Recommendations as a result of the review will be completed in time to present to the Council before the 2006-08 biennium.

The Other Major Revenue Source: Tuition and Fees

Any discussion of funding adequacy for institutions should address the matter of the relative cost for Kentucky's students. As the table below indicates, the relative share of the public funds' cost to educate students has increasingly tilted toward tuition revenue and away from state General Fund appropriations. Tuition's share of total public funds (state appropriation plus tuition and fees revenue) has increased from less than 31 percent in FY 1999 to close to 35 percent in FY 2002.

Institution	1999 Tuition Revenue	1999 State Appropriation	1999 Total Public Funds	1999 % Tuition of Public Funds	2000 Tuition Revenue	2000 State Appropriation	2000 Total Public Funds	2000 % Tuition of Public Funds
EKU	\$35,791,900	\$63,791,500	\$99,583,400	35.94%	\$43,577,400	\$69,449,500	\$113,026,900	38.55%
KCTCS	51,589,903	158,683,900	210,273,803	24.53%	68,496,900	178,573,700	247,070,600	27.72%
KSU	6,423,900	20,364,100	26,788,000	23.98%	9,202,800	22,515,300	31,718,100	29.01%
MoSU	21,102,600	38,812,500	59,915,100	35.22%	31,217,400	42,399,400	73,616,800	42.41%
MuSU	26,014,000	46,753,300	72,767,300	35.75%	33,937,300	51,673,700	85,611,000	39.64%
NKU	35,481,000	34,642,000	70,123,000	50.60%	47,735,000	43,303,000	91,038,000	52.43%
UK	109,710,200	286,524,800	396,235,000	27.69%	133,915,900	303,639,300	437,555,200	30.61%
UofL	67,009,000	160,345,000	227,354,000	29.47%	93,944,000	179,656,000	273,600,000	34.34%
WKU	36,066,600	58,072,500	94,139,100	38.31%	47,880,400	66,162,800	114,043,200	41.98%
TOTAL	\$389,189,103	\$867,989,600	\$1,257,178,703	30.96%	\$509,907,100	\$957,372,700	\$1,467,279,800	34.75%

Source: CPE Comprehensive Database form FD-1A, 1998-99 and 2001-2002

Looked at another way, over the three-year period from FY 1999 through FY 2002, as the table below indicates, while state appropriations increased by about 10 percent, tuition and fees revenue increased by over 30 percent.

**Increase in Tuition and Fees as
Compared to State Appropriation Increases**

Fund Source	FY 1999	FY 2002	Percent Change
Tuition and Fees	389,189,103	509,907,100	31.02%
State Appropriations	867,989,600	957,372,700	10.30%

Source: CPE Comprehensive Database form FD-1A, 1998-99, 2001-02

For decades, Kentucky has worked diligently to develop a fiscal structure that primarily subsidizes postsecondary education opportunities through common tax support or above average tax effort in exchange for maintaining low student tuition. Thus, Kentucky ranks comparatively high in tax effort and relatively low in average tuition and fees charged to the student, as indicated in these data. In this respect, Kentucky's fiscal structure for financing postsecondary education is similar, for example, to the states of North Carolina and California. Despite the success of this fiscal structure, a major shift has begun to take place, essentially substituting revenues traditionally generated through common tax support for revenues generated by students. Kentucky's recent shift is similar to developments in many other states.

Funding House Bill 1 Goals

The third perspective shows the true cost of increasing Kentucky's educational attainment levels to at least the national average by 2020 so Kentucky can successfully compete in the knowledge-based economy. This view supports the assumptions outlined in the postsecondary education reform agenda that the key to economic prosperity and an increased standard of living and quality of life in Kentucky is advanced education.

While institutional operating appropriations represent the base funding needs of the system, there are other costs associated with having an adequately funded system of postsecondary education. Kentucky is one of only a few states that has invested in research, science, technology, adult education, and workforce development in such a focused way. The strategic trust funds have been the primary mechanism for targeting the investment, even during recent years of fiscal austerity. The state appropriated \$350 million, and with dollar-for-dollar institutional matches through private donations, will provide \$700 million in endowments at Kentucky's institutions in support of

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research and excellence over the past three biennia through the Bucks for Brains program. In addition to those trust funds created by HB 1, the legislature has funded other important strategic initiatives such as the adult education and literacy program and the science and technology program.

The Council's budget recommendation for the 2004-06 biennium includes major funding for institutional capital needs (about \$378 million in state-supported bonds to construct new space and renovate existing facilities). In addition, the Council's budget request for the upcoming biennium requests \$10 million (which only covers a small portion of the need) for projected enrollment growth in fall 2004, \$73 million in funds for Bucks for Brains and related programs, and additional funds for both merit-based and need-based student financial aid.

According to the most recent data published by the National Science Foundation, the University of Kentucky ranked 36th among all public universities and colleges in total research and development expenditures (\$211.7 million) while the University of Louisville ranked 84th (\$72.8 million).

Funding Research and Development

One of the Council's five questions for measuring progress on postsecondary education reform is Question 5: Are Kentucky's communities and economy benefiting? A key metric the Council monitors is research and development expenditures, as measured by the National Science Foundation.

This metric represents an important policy issue, particularly for the University of Kentucky in its quest to achieve top-20 public research university status and for the University of Louisville in its goal to become a nationally-recognized, premiere metropolitan research university. According to the most recent data (federal fiscal year 2001) published by the National Science Foundation, the University of Kentucky ranked 36th among all public universities and colleges in total research and development expenditures (\$211.7 million) while the University of Louisville ranked 84th (\$72.8 million). To put the UK and UofL research and development numbers in perspective, the leading University of Kentucky peer benchmark institution in the research and development arena, the University of California at Los Angeles, had research and development expenditures in fiscal year 2001 totalling \$693.8 million while the leading University of Louisville peer benchmark institution, the University of California at San Diego, had \$556.5 million in total research and development expenditures this same year.

Another way to view the UK and UofL numbers is to understand that the "average" total research and development expenditure amount for a top-20 public univer-

sity or college in federal fiscal year 2001 amounted to about \$445 million, while the “average” for a top-100 institution amounted to about \$201 million. Thus, as these data indicate, while both the University of Kentucky and the University of Louisville have been making substantial progress in enhancing their respective research and development enterprises, major public research institutions across the country have been doing likewise, many at an accelerated pace.

Continuing to make progress on research and development-related metrics is vitally important to help advance Kentucky’s economy. The activities of Kentucky’s public four-year institutions, and particularly its two research institutions, thus become essential to the postsecondary education reform agenda’s ultimate goal of improving lives of Kentuckians. Research and development will help further Kentucky’s intellectual enterprise and, in turn, spur the building of business ventures. This enhanced economic activity will result in higher incomes and an improved quality of life for the citizens of the Commonwealth.

Next Steps

In 1998, the Council asked the RAND Corporation to conduct an analysis of Kentucky’s postsecondary education enrollments to determine how many additional students the Commonwealth needed to enroll by the year 2020 to be above the national average in educational attainment and college-going. The result of that study indicated that Kentucky’s 1998 total undergraduate enrollment number, about 160,000 students, would need to be increased by about 50 percent, to 240,000, or an additional 80,000 undergraduates. Given Kentucky’s success in enrolling more students during the first five years of reform, the Council revised its enrollment goals in 2001, projecting that the system would reach the goal of 80,000 additional students by 2015 instead of 2020.

In 2004, the Council plans to update this analysis and expand its scope to address the following questions:

1. How many students will be in the system by 2020 if Kentucky achieves its goal of being at or above the national average in educational attainment?
2. Does Kentucky currently produce enough degrees annually to close the gap by 2020? How many more degrees (by level) need to be produced above

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- and beyond the current level of production? What increases in enrollment, retention, and graduation rates are needed?
3. If these projections and goals are achieved, what impact will they have on Kentucky's personal income and tax base?
 4. What additional investment in the postsecondary system will be required to implement these and other reform goals, including affordability, research, and technology transfer?

Enhanced Economic Development and Quality of Life

Increasing the educational attainment of Kentucky's workforce is vital to the state's future economic development and the ability to compete successfully in the knowledge economy. Colleges and universities play an important role in training the current and future workforce and building and sustaining research and development capacity. As ideas generated from university research are commercialized, Kentucky will require a highly motivated, well-educated workforce. Kentucky also needs to create a thriving, entrepreneurial climate.

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Indicators Related to Economic Development

- Data released by the National Science Foundation in April 2003 show that combined extramural research and development expenditures at UK and UofL rose from \$173 million in 2000 to \$185 million in 2001. The goal is to reach \$1 billion in combined expenditures by 2020.
- Federal research and development expenditures for UK and UofL rose from \$92 million in 2000 to \$111 million in 2001. Kentucky is likely to meet its statewide goal for 2002.
- As part of its strategic plan for a knowledge economy, the Kentucky Innovation Commission has identified five research priority areas:

- Human Health and Development
- Biosciences
- Materials Science and Advanced Manufacturing
- Information Technologies and Communications
- Environmental and Energy Technologies

In 2002, endowments in these research priority areas rose to \$306 million, exceeding the statewide goal for 2002 and 2003.

- Expenditures from endowments and gifts in the research priority areas also increased, rising from \$11.7 million in 2001 to \$22 million in 2002.
- Research and public service grants at the comprehensive universities (three-year averages) have risen significantly since 1998, and exceed the goals established for 2002.

The Endowment Match Program matches state dollars with private donations to encourage research at UK and UofL, and to strengthen key programs at Kentucky's comprehensive universities.

Initiatives to Enhance Economic Development

Numerous activities and initiatives were undertaken in 2002-03 to enhance the state's economic development, which are described below.

"Bucks for Brains" Endowment Match Program

The Endowment Match Program matches state dollars with private donations to encourage research at UK and UofL, and to strengthen key programs at Kentucky's comprehensive universities. All funds, both public and private, must be endowed, which provides a perpetual source of funding for research-related activities. Endowment proceeds can be used for endowed chairs, professorships, fellowships, scholarships, and mission support at the public universities.

The General Assembly has appropriated a total of \$350 million to this program over the past six years. Of that amount, \$300 million was allocated to the two research universities, and \$50 million was allocated to the six comprehensive institutions. There have been three rounds of funding for the program: \$110 million in 1998-2000; \$120 million in 2000-02; and \$120 million in 2002-04. Once the institutions have fully matched their 2002-04 allocations, a total of \$700 million will be dedicated to the endowments of Kentucky's public universities.

During 2002-03, Kentucky's public universities added \$34.5 million in cash gifts and state funds to their endowments through the Endowment Match Program. These funds supported the creation of eight new endowed chairs and 11 new endowed professorships during the fiscal year, as well as multiple fellowships, scholarships, and mission support programs. Overall, between 1997 and 2003, the number of endowed chairs at all institutions increased from 55 to 170 (209 percent), and the number of endowed professorships increased from 53 to 235 (343 percent) since the program began.

Bucks for Brains has helped public universities attract quality researchers dedicated to advancing knowledge, developing products, building businesses, and improving the health and well-being of Kentucky's citizens. The program also has aided universities' efforts to attract federal research dollars to Kentucky. Between 1997 and 2001, federal research and development expenditures at Kentucky's research institutions increased from \$75.6 million to \$111.3 million, or by 47.2 percent. Over that same period, extramural research and development expenditures increased from \$105.2 million to \$185.0 million, or by 75.9 percent.

A fourth round of Bucks for Brains has been requested for 2004-06 totaling \$61 million—\$50 million to be divided between UK and UofL, \$10 million among the comprehensive universities, and \$1 million for KCTCS. The Council also requests \$217.9 million in construction to support Bucks for Brains faculty and other research programs.

HB 572 Knowledge Economy Programs

The *Kentucky Innovation Act* (HB 572 from the 2000 General Assembly) created a knowledge economy blueprint for Kentucky, with four new programs administered by the Council. The legislation created research and development support programs and provided the necessary fiscal stimulus to create, attract, incubate, and grow high-tech and biotech firms in Kentucky. These programs, combined with two already in existence, provide Kentucky's knowledge economy infrastructure. A more detailed description of these programs is available in the 2002-03 annual report (www.cpe.state.ky.us/facts/2002_03Annual_Report.pdf). Highlights from the report include:

- The Research and Development Voucher program is a \$3 million per year investment fund that enables small and medium-sized Kentucky-based firms to undertake research and development partnerships with Kentucky universities. Eleven companies have received \$1.2 million since the program began.
- The Rural Innovation program is a \$1 million per biennium investment fund that assists small, rural, Kentucky-based firms to undertake research and development. Funds must be used in partnership with a university or an appropriate third party. Forty-three Kentuckians have received \$512,900 in rural investment funds since the program began.
- The Commercialization fund contains \$750,000 per year that can be invested in university faculty to translate their research into marketable products. Nine faculty received \$627,552 in 2002 and 2003 for intellectual property commercialization.
- Regional Technology Corporations were designed to support clusters of knowledge-based businesses, primarily in rural areas of Kentucky. In 2002, the RTCs were recreated as satellites to innovation and commercialization centers, managed by the Office for the New Economy.
- The Kentucky Science and Engineering Foundation builds research and development excellence in the Commonwealth, particularly in Kentucky's priority research areas. KSEF has awarded \$4.1 million to individuals and companies since it was created.
- The Experimental Program to Stimulate Competitive Research was created in 1978 in response to congressional concern over the inability of some states to compete for federal research and development grants and contracts. Kentucky began participating in the program in 1986. Since that time, scientists and engineers at the universities have received awards from all major federal agencies with EPSCoR programs. In 2002 and 2003, Kentucky EPSCoR funded 188 research projects and infrastructure grants, totaling \$7.4 million and bringing in \$28.1 million federal matching funds.

Labor Market Information Survey

In November 2002, the Workforce Development Cabinet released the final report from its Labor Market Information Survey (LMI), a comprehensive study of labor supply and demand in Kentucky conducted by a consortium of researchers from UK and UofL. At the request of the Council staff, the Workforce Development Cabinet included a series of questions about educational attainment. Respondents were asked to indicate the positions for which they had the greatest demand, number of vacancies, required educational levels, and annual salaries.

Results of the LMI indicate that while the demand for low-skill workers in Kentucky remains high, the need for workers with a bachelor's degree exceeds the percentage of the population with the credential. Among the high-skill positions identified by employers, demand for healthcare workers was particularly strong. The Council will use these results to inform future policy and program approval decisions.

Workforce/Economic Development Policy Group

The Council has established a new Workforce/Economic Development policy group to examine key issues, including:

- Areas of knowledge and competency needed to compete in the current and emerging workplace.
- Policies and institutional strategies necessary to attract students into high demand jobs, anticipate and respond to changing educational demands, prepare workers in the state's shortage areas, provide educated Kentuckians for the workforce, and support Kentuckians who create their own businesses.
- Partners' roles and responsibilities in providing educational opportunities to workers.
- Goals and performance indicators appropriate for partners to ensure a high-performance, high-quality workforce and education system.
- Enhanced economic and educational effectiveness of Bucks for Brains and its links to research and development and commercialization programs and funding.
- Labor market projections.

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Conclusion

Effective partnerships with K-12 and adult education produced policies and programs that made Kentucky's educational system more "seamless"—in other words, more integrated, coordinated, and responsive to student needs. Likewise, the collaborative work of postsecondary institutions and business interests has improved Kentucky's ability to compete in the knowledge economy. Further improvement is needed to encourage more associate degree completers to transfer to baccalaureate programs. Increased funding will be necessary to raise Kentucky institutions to the funding level of their benchmark peers. Activities in 2003-04—most notably, full implementation of CAS and regional transfer workshops—will ensure continuing progress and address shortcomings.

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